

P-1000 Vulcan - SS-N-12 mod.2 SANDBOX

DATA AS OF 2024 (standard replenishment)

P-1000 "Vulcan" complex, 3M70 missile - SS-N-12 mod.2 SANDBOX

★★★★

Anti-ship cruise missile. Development of the complex was started by NPO Mashinostroyeniya (formerly OKB-52) of V.N. Chelomey (since 1984, General Designer - G.A. Efremov) in accordance with the Resolution of the USSR Council of Ministers of May 17, 1979. The missile is a further development of the P-500 complex missile, retaining the launch equipment and significantly increasing the range due to the use of a new starting engine, increasing the volume of fuel in the cruise stage, reducing the armor mass and other improvements.

The first test launch from the SM-49 ground test stand in Nenoksa - December 3, 1982 (10 hours 55 minutes) - the launch was unsuccessful - the launch block did not separate from the missile, the missile broke apart and fell after 8 seconds of flight. The second launch - April 9, 1983 - a similar result at 9 seconds of flight. As a result of the analysis of unsuccessful tests it was established that the failures occurred due to the fault of the missile control system. The third launch was successful (probably June 1983). Tests with the SSGN Project 675MKV began on December 22, 1983. Joint tests of the P-1000 complex and the SSGN Project 675MKV - 1985. The first launch within the framework of joint tests was a 2-missile salvo (both missiles hit the target despite the failure of the pressure maintenance system in the instrument compartment and an operator error). The second launch within the framework of joint tests was on November 8, 1985 - a three-missile salvo, one missile had a failure of the radar sighting device (RLS), the other two missiles hit their targets. As a result of flight design and joint tests, 18 missile launches were made, of which 11 launches were considered successful. Tests of the control system and control and verification equipment were completed in 1985. In December 1985, the Act on Completion of Joint Tests was signed with a recommendation for the P-1000 Vulcan complex to be accepted into service with control tests to be conducted in 1986. Eight missiles were allocated for the control tests and it was planned to conduct a four-missile salvo and four single launches of missiles with different programs. One of the single launches (April 24, 1986) took place with the starting engine of the P-500 complex missile according to the program of the P-500 complex missile control system. The launch was successful. Two successful launches to test the missiles' noise immunity took place on June 18 and 19, 1986. A four-missile salvo took place on July 4, 1986 (three missiles were equipped with telemetry equipment due to the fact that the equipment at the test site could not receive information from four missiles). The missile, not equipped with a telemetry system, lost control on approach to the target; the cause was not established.

In 1986, the creators of the complex were awarded the USSR Lenin Prize ([source](#)). The Vulcan complex was accepted into service on December 18, 1987. Serial production of the Vulcan missiles was carried out by the Strela Production Association in Orenburg. The missile was produced from 1985 to 1992.

3M70 missile of the P-1000 "Vulcan" complex (<http://www.cruiser-moskva.info>).

Author: DIMMI

Created: 28.08.2010 06:06:38

Comments: 35

[READ THE FULL ARTICLE >](#)

P-500 Basalt - SS-N-12 SANDBOX

DATA AS OF 2022 (in progress)

P-500 Bazalt complex, 4K77 missile - SS-N-12 SANDBOX

★★★★

Anti-ship cruise missile. The development of the missile was started by the Resolution of the Council of Ministers of the USSR dated February 28, 1963. The development of the missile was carried out in OKB-52 (now - "NPO Mashinostroyeniya") by a group of leading designers consisting of: Daniil Gerchik, Nikolai Klyuev, Anatoly Arzhanov. The Bazalt missile was intended to replace the P-6 missiles, was initially created by OKB-52 under the code P-6M ([source](#)) and had approximately the same weight and size characteristics. In terms of aerodynamics and design-layout scheme, the missiles were also similar, but the Bazalt missile had a higher flight speed, increased firing range and a more powerful high-explosive cumulative warhead. The flight profile is "high altitude - low altitude" with an increase in the duration of the final stage and a decrease in the flight altitude during it.

The main differences from the P-6 family of missiles are:

- long range and high supersonic flight speed, allowing the carrier to remain outside the defense zone of the attacked ships;
- rational trajectory shape, allowing to bypass the air defense zone of the attacked ship in the final section;
- use of an onboard digital computer in the control system with the solution of flight control problems and hitting the target in a complex jamming environment;
- use, for the first time on cruise missiles, of an onboard active jamming station, which ensures the missile's invulnerability to anti-aircraft missiles in the air defense zone of the attacked target.

The preliminary design of the missile was completed in December 1963. The first stage of flight design tests was held from October 1969 to October 1970 at the Naval proving ground in Nenoksa. Six missile launches were conducted without radio equipment from a ground test stand. The second stage of flight tests was conducted with missiles in standard configuration (14 launches). As a result of the tests, experimental data were obtained on the cruise missile's flight characteristics, the operability of its systems and units, the launcher container and individual units of ground equipment.

Catalog of r

[AIR](#)
[EARTH](#)
[WATER](#)

[Submarin](#)
[Ships of f](#)
[Small cor](#)
[Landing c](#)
[Hovercra](#)
[Special a](#)
[Ekranopl](#)
[Navy Sur](#)
[Missiles](#)
[Surface-t](#)
[the Navy](#)

[P-1 Pik](#)
[SCRUE](#)
[P-5 - S](#)
[P-10](#)
[P-35 -](#)
[P-6 - S](#)
[P-7](#)
[P-20 F](#)
[P-40](#)
[P-70 A](#)
[STARB](#)
[P-100 \(](#)
[P-500 I](#)
[P-50 / I](#)
[SHIPW](#)
[3K-10 /](#)
[SAMP](#)
[P-750 I](#)
[SCORF](#)
[P-1000](#)
[SANDE](#)
[X-35 /](#)
[SWITC](#)
[P-800 /](#)
[26 STR](#)
[BrahM](#)
[missile](#)
[P-1200](#)
[P-900 /](#)
[/ 3M-14](#)
[SIZZLE](#)
[Hermes](#)
[Hermes](#)
[3K-22](#)
[missile](#)
[BrahM](#)
[Caliber](#)

[Anti-subr](#)
[Anti-aircr](#)
[Navy](#)
[Naval Art](#)
[Torpedoe](#)
[Mines an](#)
[Radars a](#)

[SPACE](#)
[Personalitie](#)
[News and u](#)



In 1975, the Bazalt missile system was adopted for service on Project 675 SSGNs, which were previously armed with the P-6 system .



Missile of the P-500 complex (photo from the Skeptic-2 archive, <http://forums.airbase.ru>)



Missile of the P-500 "Basalt" complex (<http://www.npomash.ru>).

Author: [DIMMI](#) Created: 28.08.2010 04:36:05 Comments: [2](#) [READ THE FULL ARTICLE >](#)

3K-10 / S-10 Granat - SS-N-21 SAMPSON

DATA FOR 2022 (standard update)
Complex 3K-10 / S-10 "Granat", missile KS-122 / 3M-10 - SS-N-21 SAMPSON
★★★★

Long-range sea-launched cruise missile. Full-scale development of a sea-launched system with the KS-122 missile in response to the creation of the SLCM and GLCM cruise missiles in the USA was started by the Novator Design Bureau (Sverdlovsk) by the decision of the Military-Industrial Complex under the USSR Council of Ministers No. 282 of June 19, 1975. Chief Designer - L.V. Lyulyev. According to unofficial memoirs (source - Shirokorad), preliminary development of the long-range subsonic cruise missile project was carried out at the Novator Design Bureau on its own initiative in the late 1960s - early 1970s. There is also a legend about one of the SLCM test samples accidentally ending up in Cuba that ended up in the Novator Design Bureau.

As a result of the research work "Echo" conducted by GosNIIAS in the late 1960s, it was established that it was possible to overcome the enemy's air defense and missile defense systems with subsonic cruise missiles in case of their massive use, as well as using the "counter detonation" technique to destroy the enemy's air defense and missile defense systems with nuclear explosions in order to clear a corridor for other attacking cruise missiles.

The development of a torpedo-missile complex with a KS-122 cruise missile launched from 533-mm torpedo tubes was started by the Malakhit Design Bureau (chief designer - L.A. Podvyaznikov) by order of the Ministry of Shipbuilding Industry dated December 9, 1975. The torpedo-missile complex was intended to solve operational-strategic tasks in the continental theater of military operations by destroying administrative-political and large military-industrial centers with pre-determined coordinates. The complex ensured combat use at any time of day or year, in any weather conditions, in mountainous and difficult terrain.

The official design of systems with long-range cruise missiles of air, land and sea basing was started in the USSR by the Resolution of the Council of Ministers of the USSR of December 9, 1976. Later, on the basis of the S-10 "Granat" system with the KS-122 missile, its land-based version was created - RK-55 "Relief" . On May 26, 1978, the Resolution of the Council of Ministers of the USSR assigned the reworking of the project of the submarine project 971 for the placement of the CRBD "Granat".



Latest com

[RPK-7 Wind](#) .

[Rishat](#) 2025-04-0

[RPK-7 Wind](#) .

[Rishat](#) 2025-04-0

[PKR Moskit](#)

[Rishat](#) 2025-04-0

[pr.11711 - IVA](#)

[Rishat](#) 2024-09-0

[pr.11711 - IVA](#)

[Rishat](#) 2024-09-0

[pr.11711 - IVA](#)

[Rishat](#) 2024-08-2

[pr.11711 - IVA](#)

[Rishat](#) 2024-08-2

[Historical ph](#)

[Rishat](#) 2024-08-1

[Historical ph](#)

[Rishat](#) 2024-08-0

[Historical ph](#)

[Rishat](#) 2024-08-0



The analogue of the 3M-10 Granat missile is the 3M-54E missile (from the Diletant2010 archive, <http://militaryrussia.ru/forum/>).

Author: [DIMMI](#)

Created: 21.10.2012 22:13:44

Comments: [52](#)

[READ THE FULL ARTICLE >](#)

Meteorite, missile 3M25 / X-80 - SS-NX-24 SCORPION / AS-X-19 KOALA / SSC-X-5

DATA FOR 2013 (standard update)

P-750 / 3K25 "Meteorit-M" complex, 3M25 "Thunder" missile - SS-NX-24 SCORPION

Meteorit-A complex, 3M25A "Thunder" missile / X-80 / product 255 - AS-X-19 KOALA

Meteorit-N complex, 3M25N "Thunder" missile - SSC-X-5 SCORPION

★★★★

Long-range cruise missile. Developed by OKB-52 (NPO Mashinostroyeniya, Reutov) under General Designer V.N. Chelomey. Preliminary development of the design of a universal supersonic cruise missile in terms of carriers was carried out as part of the Meteorit R&D project since 1973 ([source](#)). The USSR Council of Ministers issued a decree on the creation of sea-, air- and land-based cruise missiles (including the Meteorit universal strategic cruise missile) on December 9, 1976. The missile was designed in three basing variants: sea-based (for Project 949M SSGNs), air-based (for the Tu-95 and possibly the Tu-160), and land-based (probably with a self-propelled launcher). The preliminary design of the sea-based complex was approved in December 1978, and the air-based design in January 1979. The development of liquid engines for the booster stage was conducted by the Chemical Automation Design Bureau (KBKhA) from 1977 to 1988. The missiles were manufactured at the Khrunichev Plant. Preliminary tests of the missile for wing extension and cruise engine launch were conducted at the NPO Mashinostroyeniya in Reutovo.

The first launch of the sea-based version of the Meteorit cruise missile from a ground test site at the Kapustin Yar test site took place on May 20, 1980. The missile failed to exit the launcher container and partially destroyed it. The next three launches were also unsuccessful. In the fifth launch on December 16, 1981, the missile successfully launched and flew about 50 km. According to unconfirmed data, in addition to launches from the ground test site, tests were also conducted using the PSK submersible test site in the Black Sea (probably the Balaklava test site). In total, more than 30 3M25 missile launches were conducted from the test sites in 1982-1987. Flight tests of the missile from the K-420 submarine, [project 667M](#) , consisted of three launches - on 27.12.1983, and one launch each in 1984 (06.11.1984) and 1986.

During the tests, the greatest problems were caused by the refinement of the correction systems based on the radio-contrast radar image of the terrain, failures of the plasma formation system of the cruise missile protection system from radar detection, and, in fact, the cruise missile launch process itself - since it was not possible to implement a supersonic launch of the missile's cruise engine, as envisaged by the terms of reference for the missile's creation.

After the missile development program was terminated (1993), about 15 ready-made 3M25 missiles remained at the Khrunichev plant.

Special thanks to the user "Sluchayny" from the forum <http://militaryrussia.ru> for help in working on the material.



Aircraft missile 3M25A "Meteorit-A" in the launch configuration (<http://testpilot.ru>)

Author: [DIMMI](#)

Created: 11.10.2010 22:59:35

Comments: [130](#)

[READ THE FULL ARTICLE >](#)

Bolide complex, 3M15 rocket

DATA AS OF 2023 (standard replenishment)
P-1200 (?) "Bolid" complex, 3M15 missile

★★

Anti-ship missile system with a supersonic cruise missile / cruise missile for firing at well-protected targets with known coordinates. The system was developed by NPO Mashinostroyeniya (OKB-52) of V.N. Chelomey (since 1984, General Designer - G.A. Efremov) in accordance with the Resolution of the USSR Council of Ministers of December 25, 1984. The system was created on the basis and using the experience of creating the [P-50 / P-700 Granit](#) system. As of 1989, the development of the system design was probably complete.

On July 9, 1990, a decision was made to conduct joint tests of the Bolid system missiles and the K-525 Arkhangelsk SSGN, [Project 949](#), in 1993. In 1991, NPP Motor manufactured and tested the first prototype of the 3M15 missile engine. In the 1990s, work on the 3M15 missile at NPO Mashinostroyeniya ceased ([source](#)).

Fragmentary information about the continued development of the complex and, possibly, even tests was received in the 1990s and early 2000s. As of 2005, the development of the complex was not closed. There is no other information about the fate of the complex.

The name "P-1200" may be erroneous or may be a falsification.

Author: [DIMMI](#) Created: 09/15/2010 16:18:44 Comments: [2](#) [READ THE FULL ARTICLE >](#)

[Complex 3K-14 / S-14 Kalibr, missiles 3M-54 / 3M-14 - SS-N-27 / SS-N-30 SIZZLER](#)

DATA AS OF 2022 (standard replenishment)
Complex 3K-51 "Biryuza", missile P-900 / 3M-51 "Alpha" - SS-N-27A SIZZLER
Complex 3K-54P / P-10 "Biryuza-PL", missile 3M-54 / 3M-54E1 / Club-S - SS-N-27B SIZZLER
Complex 3K-14 / S-14 "Kalibr-PL" / "Kalibr-NK", missile 3M-14E / 3M-14 - SS-N-30 SIZZLER

★★★★

Universal shipborne firing system / missile system with cruise missiles. The cruise missiles of the system were developed by the Novator Design Bureau (Yekaterinburg). The development of the 3M-51 Alpha anti-ship cruise missile with an additional warhead stage for launching from a submarine torpedo tube was started by the Novator Design Bureau as part of the Biryuza R&D project based on the 3M-10 cruise missile of the [3K10 Granat](#) system in 1983. In 1993, a mockup of the 3M-51 Alpha missile was demonstrated at an arms exhibition in Abu Dhabi (UAE) and at the MAKS-93 air show in Ramenskoye.

After 1991, the concept of the complex was changed - the development was reoriented to the creation of a missile weapon complex for export deliveries as a missile system / complex "Club" with missiles of different types with basing options both for submarines - Club-S (Submarine), and for surface ships - Club-N (NAVY). Based on the 3M-51 missile, while maintaining the purpose and main design features, the 3M-54 anti-ship missile was created. The 3M-14E missile was developed before 2004 on the basis of the 3M-10 missile of the [3K10 Granat](#) complex.

The first stage of state tests of the Kalibr complex and the 3M-14 missile was carried out by the Novator Design Bureau in 2009-2011. (Almaz-Antey Air Defense Concern, [source](#) - *Annual Reports 2009, 2010, 2011*). In 2011, preparations began for testing the Kalibr complex with the 3M-14 missile from the Severodvinsk submarine, Project 885 (Almaz-Antey Air Defense Concern, [source](#) - *Annual Report 2011*).

In the Russian Navy, the 3M-54 and 3M-14 cruise missiles are used as combat assets of the Kalibr-NK and Kalibr-PL missile complexes, along with missiles of other types (91R1, 91RT2, [Onyx](#)).

Identification:

- 3M-51 Alpha - anti-ship missile with a supersonic warhead stage for the USSR Navy.
- 3M-54 / 3M-54E - anti-ship missile with a supersonic warhead, export version - conventional and shortened and version for the Russian Navy.
- 3M-54E1 - anti-ship missile with an enhanced warhead, but without a supersonic warhead, export version.
- 3M-14E - cruise missile for firing at ground targets, shortened export version.
- 3M-14 - cruise missile for firing at ground targets, full-fledged version for the Russian Navy.



Missile type 3M-14 of the Kalibr complex, published on 09.11.2015 (collage of the Russian Ministry of Defense, [source](#)).

Author: [DIMMI](#) Created: 10/19/2014 11:49:21 PM Comments: [11](#) [READ THE FULL ARTICLE >](#)

[Complex P-700 Granit - SS-N-19 SHIPWRECK](#)

DATA AS OF 2022 (standard replenishment)
P-700 "Granit" 3K45 complex, 3M45 missile - SS-N-19 SHIPWRECK
Granit-2 complex 3K45-2 / ROC "Granitit", 3M45-2 missile

★★★★

Anti-ship cruise missile. Development of the complex was started by NPO Mashinostroyeniya (OKB-52) of V.N. Chelomey (since 1984, General Designer - G.A. Efremov) in 1969. Chief Designer - V.I. Patrushev (until 1977), starting from the end of 1977 - V.A. Vishnyakov, starting in 2003 after the creation of the NPO Mashinostroyeniya Directorate for the Granit cruise missile - A.A. Malinin (at least until 2010), as of 2012-2013, the chief designer in this direction is Konstantin Danilov ([source](#)).

The development of the Granit missile was a continuation of work on the creation of an underwater missile with a range of 400-600 km and a flight speed of 3200-3600 km/h of the P-500P type (carrier - Project 688 SSGN). In connection with the strengthening of the air defense of US Navy aircraft carriers with F-14 fighters with Phoenix missiles and a multi-channel radar, it was supposed to strike with a group of at least 20 anti-ship missiles to achieve guaranteed destruction. According to the decision of the Military-Industrial Complex under the Council of Ministers of the USSR dated April 8, 1966, in the first quarter of 1967, OKB-52 was to submit a preliminary design for an anti-ship missile as part of the Granit R&D ([source](#)). The development of the preliminary design showed that a missile with the specified performance characteristics would be 13 m long and the solid propellant rocket engine would not be able to serve as a cruise engine. By the decision of the Military-Industrial Commission under the Council of Ministers of the USSR of October 21, 1968, changes were made to the performance characteristics while maintaining the requirement to fit within the dimensions of the Malachite anti-ship missile launcher. These performance characteristics formed the basis for the Resolution of the Council of Ministers of the USSR No. 539-186 of July 10, 1969 on the Granit R&D project to create the complex ([source](#)), the start date for joint testing of the complex was set for the second quarter of 1973.

The Granit R&D project envisaged the creation of an anti-ship missile with autonomous (without interaction with the carrier) selection of the main target in a formation of ships and a universal launch - surface or underwater. The draft design was released in 1969 and approved in 1970 (?).

In 1972, in Severomorsk, a demonstration of the Granit missile and space reconnaissance satellites created in the interests of the Granit complex was held for the USSR leadership - General Secretary of the CPSU Central Committee L.I. Brezhnev and Minister of Defense Marshal A.A. Grechko (*history - Perm Powder Bastion*).

Special thanks to user SHARK (<http://militaryrussia.ru/forum>) for assistance in preparing materials. Sometimes in sources the missile was called P-50.



Successful launch of the 3M45 Granit missile from the nuclear-powered missile cruiser Project 11442 Pyotr Velikiy on September 19, 2017 (video still from the Russian Ministry of Defense).

Author: [DIMMI](#)

Created: 10.09.2010 15:19:46

Comments: [226](#)

[READ THE FULL ARTICLE >](#)

P-6 Complex - SS-N-3C SHADDOCK

DATA AS OF 2013 (standard replenishment)

P-6 complex, 4K48 / 4K88 missile - SS-N-3C SHADDOCK

★★★

Anti-ship cruise missile for submarines. Developed on the basis of the P-5 cruise missile by OKB-52 in accordance with the Decree of the USSR Council of Ministers N 1149-592 of August 17, 1956. Launch boosters and launch containers are similar to P-5. The first stage of testing - stand 4A at the Balaklava test site from December 23, 1959 to July 1960 (without radio equipment), the second stage - the Severny test site (Nenoksa settlement west of Severodvinsk) from July to December 1960. Until December 1962, the Antey control system was improved during the tests. From July to October 1963, tests were conducted from the Project 675U SSGN. From October to December 1963, test launches were conducted from the Project 651 and Project 675 submarines. By the Decree of the USSR Council of Ministers of June 24, 1964, the P-6 missile was accepted into service with the USSR Navy for the Project 651 and Project 675 submarines.

The P-6 missile system was created as an integral part of a system consisting of a missile system, US-A and US-P spacecraft for receiving information from the waters of the World Ocean, a central information processing and distribution center, a target designation generation center and their transmission to the firing submarine ([source](#)).



A P-6 missile on display at the Black Sea Fleet Museum, Sevastopol, February 2004 (photo Black Sea, <http://forums.airbase.ru>)

Author: [DIMMI](#)

Created: 30.08.2010 12:52:28

Comments: 2

[READ THE FULL ARTICLE >](#)

Complex 3K-22 Zircon / Zircon-S, missile 3M-22 - SS-NX-33

DATA AS OF 2022 (standard replenishment)

Complex 3K-22 "Zircon" / "Zircon-S", missile 3M-22 - SS-NX-33



Inter-service missile system with a hypersonic missile/anti-ship missile for operational use. According to available information, the system is being developed by NPO Mashinostroyeniya ([source](#) - *Annual report*, p. 15). The first statements about the system's development in the media date back to February 2011. There was also an officially unconfirmed assumption that the export version of the Zircon missile is the [BrahMos-II](#) anti-ship missile . Until 2012, there was also a hypothesis that the complex is the successor of the [Bolid](#) complex developed by the same NPO Mashinostroeniya.

In 2011, a group of leading designers was organized in NPO Mashinostroeniya as part of Directorate 15-51 on the 3M-22 topic with Sergei Bunakov, Denis Vitushkin, Yuri Vorotyntsev and Alexey Naydenov ([source](#)). In the same 2011, a preliminary design of the Zircon-S complex was developed, and, accordingly, preliminary designs of the complex's subsystems. Part of the developments - Zircon-S-ARK and Zircon-S-RV - were carried out by the structural division of KTVR - UPKB Detal ([source](#)). As of 2011, the organization of serial production of Zircon missiles in the coming years is planned at PO Strela (Orenburg, [source](#) - *Annual report*, p. 15). The missile complex is planned to be completed by 2020.

According to the analysis of information on the topic for the second half of 2012, it was assumed that the Zircon topic was either closed or changed. There was no actual confirmation of this assumption, but it is possible that it was the difficulties with work on the topic for technical reasons that could have caused the Government's proposal to merge the Raduga Design Bureau with NPO Mashinostroyeniya to organize work on hypersonic vehicles.

May 25, 2013. The media reported ([source](#)), that the development of the complex continues according to plan, but during 2012 there was a pause caused by technical problems. There is no direct connection with the reorganization of work on hypersonics and the situation with the topic of R&D or R&D "Zircon". "Currently, we are considering the concept of development of hypersonic technologies, which introduces the classification of hypersonic vehicles, the priority of development of various technologies and materials for hypersonic vehicles. The main direction of the first stage, naturally, is the development of the system that we have already tested. The remaining directions are planned as experimental with the creation of demonstrators. But, the existing reserve in them is quite consistent with the world level. No less important issue than the creation of technologies, materials and demonstrators, now is the development of another concept - the Concept of combat use of hypersonic weapons systems. It is necessary to answer the question - why are such systems needed, how should they be used, in what forms and methods, what goals are planned to be achieved as a result of their use. And the main question - what is the uniqueness of such systems and what problems can they solve that cannot be solved by existing weapons systems."

The data is hypothetical and at best approximate. Sources are given. Identification of the 3M-22 missile - [source](#) . Mention of the 3K-22 index - [source](#) . [Source of the Western designation SS-NX-33](#).



Launch of the 3M-22 Zircon missile from the Admiral Gorshkov frigate, Project 22350, 10/06/2020 (video frame from the Russian Ministry of Defense).

Author: [DIMMI](#)

Created: 08.02.2013 00:23:01

Comments: [58](#)[READ THE FULL ARTICLE >](#)

Caliber-M (project)

DATA AS OF 2022 (standard replenishment)**Kalibr-M missile (project)**

A long-range sea-based cruise missile. The development of a modernized version of the Kalibr cruise missile has been underway at the research and development stage at the Novator Design Bureau (Yekaterinburg) since at least 2018 ([source](#)). The missile is being developed with two types of warheads - nuclear and non-nuclear. It is designed to destroy ground targets. The creation of the missile is included in the 2018-2027 weapons construction program and, accordingly, should enter service by 2027.

The first carriers of the Kalibr-M cruise missiles will be the Voronezh and Vladivostok submarines of the Yasen-M project, laid down on July 20, 2020 at Sevmash ([source](#)).

Author: [DIMMI](#)

Created: 11.01.2019 23:10:49

Comments: [4](#)[READ THE FULL ARTICLE >](#)

Complex P-800 / 3K55 Onyx / Yakhont - SS-N-26 STROBILE

DATA AS OF 2013 (standard replenishment)**P-800 / 3K55 "Onyx" complex, 3M55 / K-310 "Onyx" missile - SS-NX-26 / SS-N-26 STROBILE****3K55E "Yakhont" complex, 3M55E "Yakhont" missile - SS-N-26 STROBILE****Complex 3K55E "Yashma" (export version for submarines)****Complex "Yakhont-A" (aviation)**

Anti-ship cruise missile / unified anti-ship cruise missile. The USSR Council of Ministers resolution on the commencement of work on developing the missile was adopted on 05.06.1981. The draft design was developed and adopted by NPO Mashinostroyeniye (OKB-52 of V.N. Chelomey) on 10.03.1982. General Designer - G.A. Efremov, Chief Designer - V.A. Modestov ([source](#)). Since 1991, the missile development group has been headed by Chief Designer of the direction Vadim Merkulov ([source](#)). In 2011, a group of leading designers was organized on the 3M55 topic (with Sergei Bunakov, Denis Vitushkin, Yuri Vorotyntsev and Alexei Naidenov).

Testing of the anti-ship missile was supposed to begin in 1987, but in 1987 only a throw-out launch of the 3M55 missile was conducted from the Nakat missile ship of Project 1234.7, after which the missile ship was accepted into service. In 1991, technical documentation was released, production was mastered, and ground tests of the missiles were conducted. In the period from 1992 to 1998, tests of the underwater version of the Onyx anti-ship missile were probably conducted on the K-452 SSGN of Project 06704 (a modernized SSGN of Project 670M), but as of 2000 the tests have not been completed and the missile has not been accepted into service. In the surface version, tests were conducted on the Nakat missile ship of Project 1234.7 (see below), and in 1996 the complex was accepted into trial operation by the Russian Navy. In February 1998, an agreement was signed with India for the joint creation of the [BrahMos](#) missile system .

After long breaks, state tests on the Nakat missile system, project 1234.7, were completed by the end of 2002 and by the Decree of the Russian Government dated September 23, 2002, the 3M55 Onyx anti-ship missile was accepted into service with the Navy. The missiles have been manufactured at PO Strela (Orenburg) since 1999 ([source](#)). It differs from other OKB-52 developments in that it follows the "fire and forget" principle, "lo-hi-lo" flight profile and is universally applicable from any launch platforms (water, air, land).

The Onyx missile and system are intended for deployment on surface (export version "Yakhont") and underwater (export version "Yashma") vessels. The system was also known as the P-800 and P-100.



Launch of the 3M55 "Onyx" anti-ship missile system with the "Nakat" MRK pr.1234.7 (<http://www.npomash.ru>).



Anti-ship missile 3M55E "Yakhont" at one of the exhibitions (<http://www.testpilots.ru>)

Author: [DIMMI](#)

Created: 22.01.2009 01:00:35

Comments: [25](#)

[READ THE FULL ARTICLE >](#)

BrahMos complex, SK310 / PJ-10 missile

DATA FOR 2018 (standard update)

BrahMos complex / BrahMos, SK310 missile / BrahMos PJ-10

ROC "Alliance"

BrahMos block I missile

BrahMos block II missile

BrahMos block III

missile SK-310A / BrahMos-A missile (aircraft)

★★★★

Anti-ship cruise missile / cruise missile for firing at ground targets. Analogue of the domestic cruise missile "Yakhont" / "Onyx" developed by NPO "Mashinostroyeniye" (OKB-52 V.N.Chelomey) produced and developed for various platforms by the joint Russian-Indian enterprise "BrahMos Aerospace Pvt. Ltd." (established on 12.02.1998). In 1999, work on the complex began in related design bureaus (for example, NPO "Iskra"). The missile model was first shown at the MAKS-2001 air show. Testing of BrahMos missiles began no later than 2001, and their joint serial production began in January 2004. The sea-based BrahMos missile in the anti-ship cruise missile version (for surface ships) was accepted into service with the Indian Navy in 2006. The delivery of land-based missile systems to Indian coastal defense units began in 2007.

It is planned to accept into service different versions of the missiles (by basing) - land-based (wheeled transporter with vertical launch container, accepted into service), air-based version (carriers - Su-30MKI and other aircraft of the Indian Air Force), a complex for ships (accepted into service) and submarines of the Indian Navy. The Indian side is engaged in the creation of the control system of the complex. Some components for the BrahMos missiles are produced by NPO Strela (Orenburg, missile production). The possibilities of joint production as of 2009 are estimated at 200 anti-ship cruise missiles per year (2005-2006 - 100 units per year). The complex is offered for export. Many characteristics are identical to those of the Yakhont/Onyx anti-ship missiles.



Launch of the BrahMos block III missile at the Pokharan test site in Rajasthan, 18.11.2013 (photo - Indian Ministry of Defense via <http://ria.ru>).

Author: [DIMMI](#)

Created: 05.09.2010 01:54:01

Comments: [61](#)

[READ THE FULL ARTICLE >](#)

X-35 / 3M24 - SS-N-25 SWITCHBLADE / AS-20 KAYAK

DATA AS OF 2016 (standard replenishment)

Complex "Uran", missile Kh-35 / 3M24 / "article 78" - SS-N-25 SWITCHBLADE

Complex "Uran", missile Kh-35 / 3M24 / "article 78" - AS-20 KAYAK / AS-X-20 Harpoonski



Anti-ship cruise missile. Preliminary development of the small-sized anti-ship missile project was conducted by Zvezda Design Bureau starting in 1977. The decision to create a missile for the Uran ship-based missile system was made by the Resolution of the CPSU Central Committee on March 16, 1983, after studying the experience of using the Exocet anti-ship missile during the Anglo-Argentine conflict (May 1982). The development was carried out by Zvezda Design Bureau (former OKB-455, now part of KTRV), General Designer - V.N. Bugaisky (later - V.G. Galushko), Chief Designer of the system - Georgy Ivanovich Khokhlov, Chief Designer of the direction (as of 2015) - Nikolay Anatolyevich Vasiliev ([source](#)). The first version of the missile's preliminary design was reviewed in 1983 and was sent back for revision due to non-compliance with the requirements for the radar homing head characteristics ([source](#)). According to sources, another Resolution on the development of the complex was adopted by the USSR Council of Ministers on April 16, 1984 ([source](#)).

Tests . The first launch from a ground-based launch pad was planned for November 4, 1985, but due to an automatic failure (incorrect information was given about the opening of the TPK covers), the launch did not take place. The first successful launch was carried out (on the second attempt on this day) on November 5, 1985 at the test site of the 31st Test Center of the USSR Ministry of Defense (Feodosia, Crimea). According to the launch program, the missile was supposed to fly 40 km. The missile successfully exited the TPK, flew about 50 meters and fell into the sea ([source](#)). This launch is considered the first launch in the flight design testing program of the Kh-35 anti-ship missile.

The first public demonstration of the missile took place at the Mosaeroshow-1992 exhibition.

The Kh-35 missile is designed to destroy missile, torpedo, artillery boats, surface ships with a displacement of up to 5,000 tons and sea transports.



The Kh-35E missile without a booster engine at one of the naval exhibitions in St. Petersburg, 2000s (<http://army.lv/>).

Author: [DIMMI](#)

Created: 02.02.2016 13:28:30

Comments: [2](#)

[READ THE FULL ARTICLE >](#)

Complex P-35 - SS-N-3B SHADDOCK

DATA AS OF 2016 (standard replenishment)
P-35 complex, 4K44 missile - SS-N-3B SHADDOCK
Progress complex, 3M44 missile - SS-N-3B SHADDOCK
 ★★ ★

Cruise missile for arming naval ships. Development of the missile was started by OKB-52 (now NPO Mashinostroyeniya, Reutov) according to the Resolution of the USSR Council of Ministers No. 1149-592 of August 17, 1956. The missile was created as an analogue of the [P-6](#) missile for arming surface ships.

Tests. The first launch of the missile took place on October 21, 1959, probably at the Kapustin Yar test site. Field tests of the missile without radio equipment were conducted until March 1960. Tests of the P-35 from the SME-142 launcher on the experimental vessel OS-15 (dry cargo ship "Ilet") were conducted in the Caspian Sea from July 27, 1960. Continuation of tests on the OS-15 began after the modification of the APLI-1 missile control system in the 4th quarter of 1962. During the tests, one of the missiles with an inert warhead, after a direct hit on the target (the unfinished leader "Kyiv"), opened the deck by 50 m in length, the rocket engine pierced the bottom of the leader.

The first ship armed with a missile system with P-35 missiles - the missile cruiser (destroyer at laying) project 58 "Grozny" was launched on March 26, 1961 and entered service on December 30, 1962.

In some sources, in connection with the "Progress" complex, the name of the complex is mentioned as P-10 - not identified.



Launch of the P-35 missile from the Project 58 missile cruiser (<http://forums.airbase.ru>).

Author: [DIMMI](#)

Created: 30,08,2010 16:41:00

Comments: [3](#)

[READ THE FULL ARTICLE >](#)

BrahMos-II / BrahMos-II (project)

DATA AS OF 2015 (standard replenishment)

BrahMos-II / BrahMos-2 missile

★★★

Hypersonic missile project. The missile is being developed by NPO Mashinostroyeniya (*source - Annual report, p. 15*) jointly with DRDO (India). On September 29, 2008, after a meeting of the Russian-Indian Commission on Military-Technical Cooperation, the head of the BrahMos joint venture, Dr. Shivathanu Pillai, said that a decision had been made at the meeting to jointly develop the BrahMos-II hypersonic missile with a flight speed of 5-7M. The missile was planned to be created within 5 years (in 2013). In 2009, DRDO planned to test the HSTDV hypersonic demonstrator vehicle, which was being developed jointly with IAI (Israel), TsAGI and TsIAM. The purpose of the tests was to test the combustion chamber of the hypersonic ramjet.

There is an assumption that the joint development is based on a system created primarily for the Russian Armed Forces at NPO Mashinostroyeniya - a missile system with the Zircon anti-ship missile . The first statements about the development of the system in the media date back to 2010-2011. As of early 2013, it is believed that the identification of the BrahMos-II system as an analogue of the Zircon anti-ship missile is either a hoax or simply a mistake. As of 2011, the organization of serial production of the Zircon missile system (and possibly Brahmos-II) is planned for the coming years at PO Strela (Orenburg, *source - Annual report, p. 15*).

Before the opening of the Aero India 2013 aviation exhibition on February 5, 2013, a photo of the BrahMos-II missile model appeared for the first time. Later, on the opening day of the exhibition on February 6, more detailed photos of the missile model appeared.

The data are presumptive. Sources are given.



Model of the BrahMos-II missile at the DefExpo-2014 exhibition, 05.02.2014 (<http://www.brahmand.com/>).

Author: [DIMMI](#)

Created: 23.07.2012 17:20:49

Comments: [22](#)

[READ THE FULL ARTICLE >](#)

P-20 Falcon

DATA FOR 2014 (standard update)

P-20 "Falcon"

P-20S

P-22

★★★★

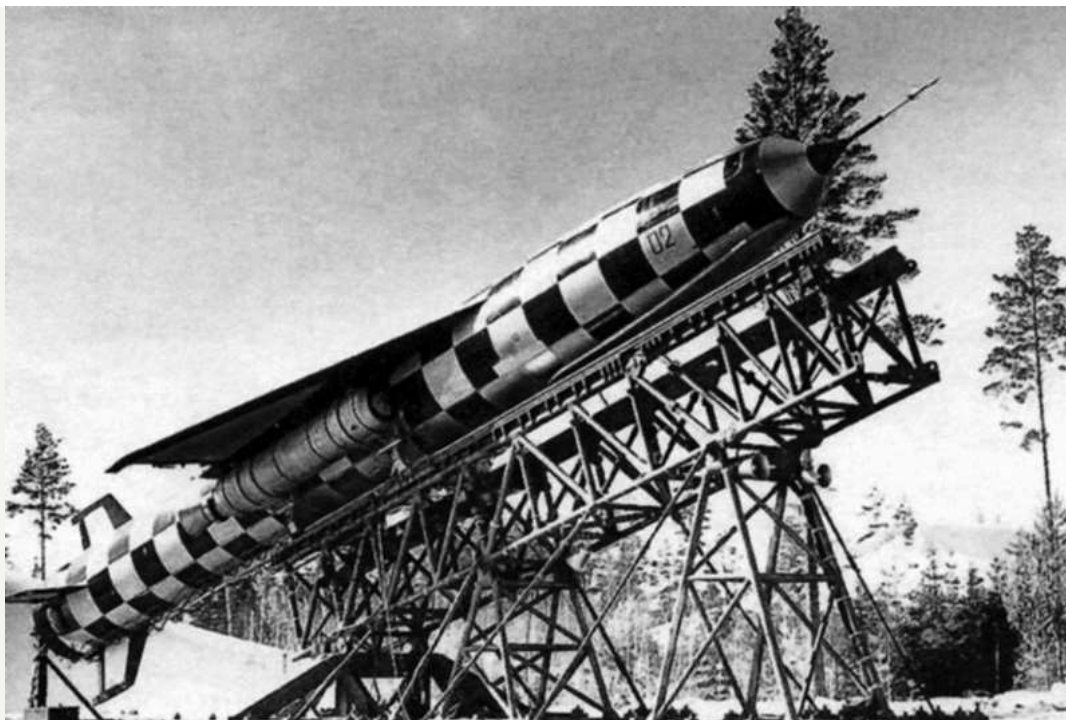
A long-range sea-based flying missile / cruise missile (since 1959). Developed by OKB-240, Chief Designer S.V. Ilyushin. Development of the sea-based flying missile was initiated by Resolution of the USSR Council of Ministers No. 551-328 of April 19, 1956. The resolution prescribed that testing of the flying missile from a Project P-627A submarine should begin in 1959. In August 1956, the USSR Council of Ministers approved a seven-year plan for the construction of the Fleet, which included the construction of an experimental Project P-627A SSGN with a P-20 flying missile. Following the experimental SSGN, it was planned to lay down a series of Project 653 boats with two missiles each.

By the Resolution of the Council of Ministers of the USSR of August 20, 1957, higher characteristics of the flying projectile were set - the maximum speed was increased to 2750-3000 km/h at a flight altitude of 22-24 km, the range - to 2500-3000 km. In 1957, the development of a ground-based flying projectile variant began.

The development of this type of flying projectile necessitated a large amount of research work. In particular, models of the flying projectile, enclosed in wooden casings, were fired from artillery guns using detachable metal pallets. After leaving the barrel, the casings were divided into halves and discarded, the pallet was separated, and the model continued its flight like a sub-caliber projectile. Several successively placed wooden frames with paper stretched over them, equipped with wire sensors, served as targets. Behind the shields there was a sand embankment catching the models. During the experiments it was possible to determine the stability of the flight, the angles of attack, and by the drop in speed — the magnitude of the longitudinal and transverse aerodynamic forces. Then they moved on to dropping larger objects weighing up to 200 kg from aircraft. After separation from the carrier at an altitude of 11 km, the solid-fuel engine installed on the model was switched on, accelerating it in 3 seconds to a speed three times greater than the speed of sound.

Then, throwing tests of a full-size P-20 model with full-scale solid-fuel boosters were started at the Faustovo test site near Moscow. Two launches were carried out — in December 1959 and early 1960.

By the Decree of the USSR Council of Ministers of February 5, 1960, the development of the cruise missile was terminated when the first flying prototype was 90% ready. The reason was the customer's refusal of a missile of this type due to the completion of tests of other models of cruise missiles.



Drop tests of the P-20 flying missile from a ground launcher ([source](#)).

Author: [DIMMI](#)

Created: 22.05.2014 23:06:42

Comments: [3](#)

[READ THE FULL ARTICLE >](#)

[Hermes Complex / Hermes-A / Klevok-A / Hermes-K](#)

DATA FOR 2011 (standard update)

Complex "Hermes" / "Hermes-S"

Complex "Hermes-A" / "Klevok-A"

Complex "Hermes-K"

Prospective aviation ATGM (as amended in 1997)

★★★

Antitank missile system for multiple purposes/multipurpose guided weapons system. Analysis of press publications as of 1996 allowed us to conclude that the development of a "promising airborne ATGM" was already underway at the Instrument-Making Design Bureau (hereinafter referred to as KBP, Tula) under the direction of A.G. Shipunov. Tests of the airborne version of the Hermes-A ATGM as part of the Ka-52 helicopter armament were completed in the summer of 2003. The Hermes-A ATGM is ready for serial production. On August 23, 2009, the head of the KBP delegation at the MAKS-2009 air show, Yuri Savenkov, announced that the helicopter version of the system would undergo flight tests in 2010 and would be accepted into service. Serial production for the needs of the Russian Ministry of Defense for arming Ka-52 and Mi-28N helicopters was planned to be launched in 2011-2012. It was also stated that in the future, the missiles of the Hermes complexes can be used with the Pantsir-S1 air defense missile system.



Launchers of the Hermes-A complex on the Ka-52 helicopter, MAKS-2007 (photo by Said Aminov, <http://pvo.guns.ru>).

Author: [DIMMI](#)

Created: 18.01.2009 01:55:08

Comments: [5](#)

[READ THE FULL ARTICLE >](#)

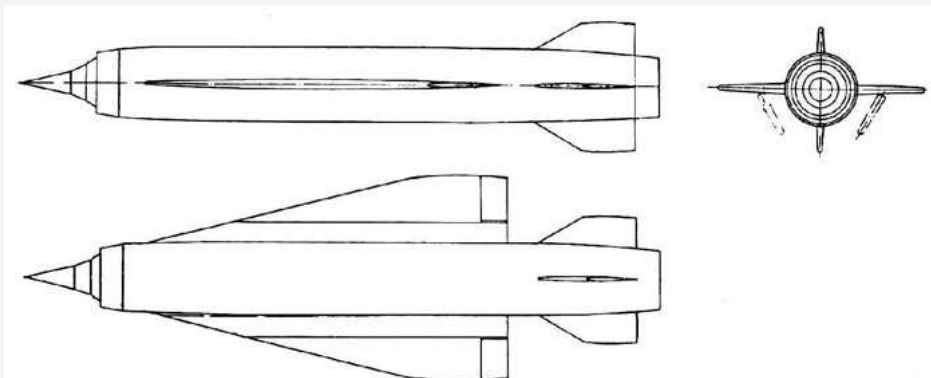
Complex P-100 (project)

DATA FOR 2010 (standard update)

P-100 System

★★★★

A long-range cruise missile (medium, intercontinental). Developed by OKB-49 of General Designer G.M. Beriev. Proposals for the creation of the cruise missile were presented by G.M. Beriev on July 9, 1957. The draft design was presented in 1961. It was assumed that the missile would be used in anti-ship, strike against ground targets, and reconnaissance versions. Use as a sea-based cruise missile was also considered. Work on the project was to be completed with the creation of the missile in 1964-1965. Development of all P-100 variants was terminated at the design stage.



Approximate projections of the P-100 cruise missile (Asanin V., Domestic photo missiles. // Equipment and weapons. No. 10 / 2006, Nos. 6, 9 / 2007, No. 6 / 2009).

Author: [DIMMI](#)

Created: 09.10.2010 22:14:37

Comments: [2](#)

[READ THE FULL ARTICLE »](#)

P-7

DATA AS OF 2010 (standard replenishment)

Complex P-7

★★★★

A cruise missile for firing at targets with known coordinates / area firing. The missile was created by V. Chelomey's OKB-52 on the basis of the [P-5](#) missile ; development was started in accordance with the Decree of the USSR Council of Ministers of June 19, 1959. Missile tests were conducted from April 1961 to July 1962 at test stand 4A of the Balaklava test site (Black Sea). The first launch was on April 21, 1961 (the launch was unsuccessful, the missile exploded). A total of 10 missiles were launched from test stand 4A during tests. Test launches from the S-158 submarine, project 644-7, were conducted in the White Sea from October 1962 to 1963 (11 launches, joint tests). Work on the missile was curtailed for non-technical reasons (in connection with the success of submarine ballistic missiles) by the Decree of the USSR Council of Ministers of August 2, 1965.



P-7 complex missile (G.A. Savelyev. From seaplanes to ultra-modern missiles)

Author: [DIMMI](#)

Created: 28.08.2010 05:56:50

Comments: [1](#)

[READ THE FULL ARTICLE »](#)

Complex P-5 - SS-N-3A SHADDOCK

DATA AS OF 2010 (standard replenishment)

P-5 / P-5D complex, 4K34 / 4K95 missile - SS-N-3A SHADDOCK

★★★★★

Cruise missile. Research and development work began in 1954 in a special design group of V.N. Chelomey (since summer 1955 - OKB-52). The first launch of the P-5 model without a cruise engine was on March 12, 1957, at the NII-2 testing ground in Faustovo. Tests of the P-5 prototype at the Kapustin Yar testing ground and on the 4A floating test stand in Balaklava took place from August 1957 to March 1958 (the first launch was on August 28, 1957 - unsuccessful, launches from the SM-49 container). First launched from a submarine on November 22, 1957. Adopted into service (P-5) by the USSR Council of Ministers Resolution No. 585-313 of June 19, 1959 for submarine-launched missile systems, and on ships in 1962 (P-35). The P-5 was upgraded to P-5D by OKB-52 in 1958-62. P-5 missiles were decommissioned in 1966.



Rocket P-5 in the Chelomey Museum in Reutov (website "Cosmonautics News", 2009)

Author: [DIMMI](#)

Created: 22.01.2009 00:46:04

Comments: [28](#)

[READ THE FULL ARTICLE](#) ➤

1 2

© 2009-2015 militaryrussia.ru
Copying and use of materials
is permitted only with a link
to the corresponding article on the site



590



Rambler's
Top100



AviaTOP